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 NEWS  1          Web Page for STN Seminar Schedule - N. America
 NEWS  2  JAN 02  STN pricing information for 2008 now available
 NEWS  3  JAN 16  CAS patent coverage enhanced to include exemplified
                  prophetic substances
 NEWS  4  JAN 28  USPATFULL, USPAT2, and USPATOLD enhanced with new
                  custom IPC display formats
 NEWS  5  JAN 28  MARPAT searching enhanced
 NEWS  6  JAN 28  USGENE now provides USPTO sequence data within 3 days
                  of publication
 NEWS  7  JAN 28  TOXCENTER enhanced with reloaded MEDLINE segment
 NEWS  8  JAN 28  MEDLINE and LMEDLINE reloaded with enhancements
 NEWS  9  FEB 08  STN Express, Version 8.3, now available
 NEWS 10  FEB 20  PCI now available as a replacement to DPCI
 NEWS 11  FEB 25  IFIREF reloaded with enhancements
 NEWS 12  FEB 25  IMSPRODUCT reloaded with enhancements
 NEWS 13  FEB 29  WPINDEX/WPIDS/WPIX enhanced with ECLA and current
                  U.S. National Patent Classification
 NEWS 14  MAR 31  IFICDB, IFIPAT, and IFIUDB enhanced with new custom
                  IPC display formats
 NEWS 15  MAR 31  CAS REGISTRY enhanced with additional experimental
                  spectra
 NEWS 16  MAR 31  CA/CAplus and CASREACT patent number format for U.S.
                  applications updated
 NEWS 17  MAR 31  LPCI now available as a replacement to LDPCI
 NEWS 18  MAR 31  EMBASE, EMBAL, and LEMBASE reloaded with enhancements
 NEWS 19  APR 04  STN AnaVist, Version 1, to be discontinued
 NEWS 20  APR 15  WPIDS, WPINDEX, and WPIX enhanced with new
                  predefined hit display formats
 NEWS 21  APR 28  EMBASE Controlled Term thesaurus enhanced
 NEWS 22  APR 28  IMSRESEARCH reloaded with enhancements

 NEWS EXPRESS FEBRUARY 08 CURRENT WINDOWS VERSION IS V8.3,
              AND CURRENT DISCOVER FILE IS DATED 20 FEBRUARY 2008

 NEWS HOURS    STN Operating Hours Plus Help Desk Availability
 NEWS LOGIN    Welcome Banner and News Items
 NEWS IPC8     For general information regarding STN implementation of IPC 8

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* * * * * * * * * * * * * * STN  Columbus  * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 11:56:19 ON 29 MAY 2008

=>
=> file caplus
COST IN U.S. DOLLARS                               SINCE FILE      TOTAL
                                                        ENTRY    SESSION
FULL ESTIMATED COST                                      0.21       0.21

FILE 'CAPLUS' ENTERED AT 11:56:30 ON 29 MAY 2008
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FILE LAST UPDATED: 28 May 2008  (20080528/ED)

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=> e 38215-36-0/rn
'RN' IS NOT A VALID EXPAND CODE IN FILE 'CAPLUS'

=> file registry
COST IN U.S. DOLLARS                               SINCE FILE      TOTAL
                                                        ENTRY    SESSION
FULL ESTIMATED COST                                      0.48       0.69

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STRUCTURE FILE UPDATES:   28 MAY 2008  HIGHEST RN 1023436-44-3
DICTIONARY FILE UPDATES:  28 MAY 2008  HIGHEST RN 1023436-44-3

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TSCA INFORMATION NOW CURRENT THROUGH January 9, 2008.

  Please note that search-term pricing does apply when
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REGISTRY includes numerically searchable data for experimental and
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predicted properties as well as tags indicating availability of
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on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=> e 38215-36-0/rn
E1            1     38215-33-7/RN
E2            1     38215-34-8/RN
E3            1 --> 38215-36-0/RN
E4            1     38215-37-1/RN
E5            1     38215-38-2/RN
E6            1     38215-39-3/RN
E7            1     38215-47-3/RN
E8            1     38215-48-4/RN
E9            1     38215-49-5/RN
E10           1     38215-50-8/RN
E11           1     38215-53-1/RN
E12           1     38215-54-2/RN

=> d e3
NO L# DEFINED

=> s e3
L1            1 38215-36-0/RN

=> d l1

L1   ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2008 ACS on STN
RN   38215-36-0  REGISTRY
ED   Entered STN:  16 Nov 1984
CN   2H-1-Benzopyran-2-one, 3-(2-benzothiazolyl)-7-(diethylamino)-  (CA INDEX
     NAME)
OTHER CA INDEX NAMES:
CN   Coumarin, 3-(2-benzothiazolyl)-7-(diethylamino)- (6CI, 7CI)
OTHER NAMES:
CN   3-(2'-Benzothiazolyl)-7-N,N-diethylaminocoumarin
CN   3-(2-Benzothiazolyl-7-(diethylamino)coumarin
CN   3-(Benzothiazol-2-yl)-7-diethylamino-2H-benzopyran-2-one
CN   Coumarin 540
CN   Coumarin 6
CN   NK 1858
CN   NSC 290432
DR   54576-82-8
MF   C20 H18 N2 O2 S
CI   COM
LC   STN Files:   AGRICOLA, ANABSTR, BEILSTEIN*, BIOSIS, CA, CAOLD, CAPLUS,
       CASREACT, CHEMCATS, CHEMLIST, CSCHEM, GMELIN*, IFICDB, IFIPAT, IFIUDB,
       IPA, PIRA, TOXCENTER, USPAT2, USPATFULL, USPATOLD
         (*File contains numerically searchable property data)
     Other Sources:   DSL**, EINECS**, TSCA**
         (**Enter CHEMLIST File for up-to-date regulatory information)
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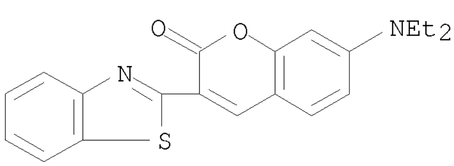

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**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

            1014 REFERENCES IN FILE CA (1907 TO DATE)
               3 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
            1015 REFERENCES IN FILE CAPLUS (1907 TO DATE)
               2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)


=> d l1 all

L1   ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2008 ACS on STN
RN   38215-36-0  REGISTRY
ED   Entered STN:  16 Nov 1984
CN   2H-1-Benzopyran-2-one, 3-(2-benzothiazolyl)-7-(diethylamino)-  (CA INDEX
     NAME)
OTHER CA INDEX NAMES:
CN   Coumarin, 3-(2-benzothiazolyl)-7-(diethylamino)- (6CI, 7CI)
OTHER NAMES:
CN   3-(2'-Benzothiazolyl)-7-N,N-diethylaminocoumarin
CN   3-(2-Benzothiazolyl-7-(diethylamino)coumarin
CN   3-(Benzothiazol-2-yl)-7-diethylamino-2H-benzopyran-2-one
CN   Coumarin 540
CN   Coumarin 6
CN   NK 1858
CN   NSC 290432
DR   54576-82-8
MF   C20 H18 N2 O2 S
CI   COM
LC   STN Files:   AGRICOLA, ANABSTR, BEILSTEIN*, BIOSIS, CA, CAOLD, CAPLUS,
       CASREACT, CHEMCATS, CHEMLIST, CSCHEM, GMELIN*, IFICDB, IFIPAT, IFIUDB,
       IPA, PIRA, TOXCENTER, USPAT2, USPATFULL, USPATOLD
         (*File contains numerically searchable property data)
     Other Sources:   DSL**, EINECS**, TSCA**
         (**Enter CHEMLIST File for up-to-date regulatory information)
DT.CA  CAplus document type:  Conference; Journal; Patent; Report
RL.P   Roles from patents:  ANST (Analytical study); BIOL (Biological study);
       PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or
       reagent); USES (Uses)
RLD.P  Roles for non-specific derivatives from patents:  USES (Uses)
RL.NP  Roles from non-patents:  ANST (Analytical study); BIOL (Biological
       study); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP
       (Properties); RACT (Reactant or reagent); USES (Uses)
RLD.NP Roles for non-specific derivatives from non-patents:  BIOL (Biological
       study); PREP (Preparation); USES (Uses)

Ring System Data

Elemental|Elemental| Size of |Ring System|   Ring   |   RID
Analysis |Sequence |the Rings|  Formula  |Identifier|Occurrence
   EA    |   ES    |   SZ    |    RF     |   RID    |  Count
=========+=========+=========+===========+==========+==========
C3NS-C6  |NCSC2-C6 |5-6      |C7NS       |333.521.14|1
C5O-C6   |OC5-C6   |6-6      |C9O        |591.146.35|1
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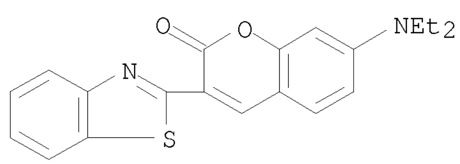

Experimental Properties (EPROP)

PROPERTY (CODE)	VALUE	NOTE
Melting Point (MP)	212 deg C	(1) CAS
Proton NMR Spectra	Spectrum	(2) WSS

(1) Swanson, Sally A.; Chemistry of Materials 2003 V15(12) P2305-2312 CAPLUS

(2) Spectral data were obtained from Wiley Subscription Services, Inc. (US)

Proton NMR Spectra

Spectrum ID:	UBIVK_101416
Temperature:	45 deg C
Solvent:	dimethyl sulfoxide-d6 (2206-27-1)
Working Frequency:	300 MHz
Source:	Spectral data were obtained from Wiley Subscription Services, Inc. (US)

Experimental Property Tags (ETAG)

PROPERTY	NOTE
Band Gap	(1) CAS
Electric Current-Potential Curve	(2) CAS
Emission/Luminescence Spectra	(3) CAS
Formation Enthalpy	(4) CAS
IR Absorption Spectra	(5) CAS
IR Spectra	(6) CAS
Mass Spectra	(5) CAS
2 more tags shown in the MAX or ETAGFULL formats	
Melting Point	(6) CAS
1 more tag shown in the MAX or ETAGFULL formats	
NMR Spectra	(6) CAS
Photoelectron Spectra	(5) CAS
Potential of Electrode Reaction	(7) CAS
Proton NMR Spectra	(5) CAS
Refractive Index	(8) CAS
UV and Visible Absorption Spectra	(9) CAS
4 more tags shown in the MAX or ETAGFULL formats	
UV and Visible Emission/Luminescence Spectra	(2) CAS
20 more tags shown in the MAX or ETAGFULL formats	
UV and Visible Reflectance Spectra	(8) CAS
UV and Visible Spectra	(1) CAS
4 more tags shown in the MAX or ETAGFULL formats	

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(8) Graves-Abe, Troy; Journal of Applied Physics 2004 V96(12) P7154-7163 CAPLUS
(9) Swanson, Sally A.; Chemistry of Materials 2003 V15(12) P2305-2312 CAPLUS

Predicted Properties (PPROP)

PROPERTY (CODE)	VALUE	CONDITION	NOTE
Bioconc. Factor (BCF)	24.23	pH 1 25 deg C	(1)
Bioconc. Factor (BCF)	63.14	pH 2 25 deg C	(1)
Bioconc. Factor (BCF)	120.33	pH 3 25 deg C	(1)
Bioconc. Factor (BCF)	547.57	pH 4 25 deg C	(1)
Bioconc. Factor (BCF)	4090.57	pH 5 25 deg C	(1)
Bioconc. Factor (BCF)	16021.28	pH 6 25 deg C	(1)

Bioconc. Factor (BCF)	22761.59	pH 7 25 deg C	(1)
Bioconc. Factor (BCF)	23762.84	pH 8 25 deg C	(1)
Bioconc. Factor (BCF)	23867.85	pH 9 25 deg C	(1)
Bioconc. Factor (BCF)	23878.42	pH 10 25 deg C	(1)
Boiling Point (BP)	570.1+/-60.0 deg C	760 Torr	(1)
Density (DEN)	1.311+/-0.06 g/cm**3	20 deg C 760 Torr	(1)
Enthalpy of Vap. (HVAP)	85.52+/-3.0 kJ/mol	760 Torr	(1)
Flash Point (FP)	298.6+/-32.9 deg C		(1)
Freely Rotatable Bonds (FRB)	4		(1)
H acceptors (HAC)	4		(1)
H donors (HD)	0		(1)
Hydrogen Donors/Acceptors Sum (HDAS)	4		(1)
Koc (KOC)	48.02	pH 1 25 deg C	(1)
Koc (KOC)	125.13	pH 2 25 deg C	(1)
Koc (KOC)	238.47	pH 3 25 deg C	(1)
Koc (KOC)	1085.21	pH 4 25 deg C	(1)
Koc (KOC)	8106.92	pH 5 25 deg C	(1)
Koc (KOC)	31751.89	pH 6 25 deg C	(1)
Koc (KOC)	45110.17	pH 7 25 deg C	(1)
Koc (KOC)	47094.56	pH 8 25 deg C	(1)
Koc (KOC)	47302.68	pH 9 25 deg C	(1)
Koc (KOC)	47323.62	pH 10 25 deg C	(1)
LOGD (LOGD)	3.07	pH 1 25 deg C	(1)
LOGD (LOGD)	3.49	pH 2 25 deg C	(1)
LOGD (LOGD)	3.77	pH 3 25 deg C	(1)
LOGD (LOGD)	4.42	pH 4 25 deg C	(1)
LOGD (LOGD)	5.30	pH 5 25 deg C	(1)
LOGD (LOGD)	5.89	pH 6 25 deg C	(1)
LOGD (LOGD)	6.04	pH 7 25 deg C	(1)
LOGD (LOGD)	6.06	pH 8 25 deg C	(1)
LOGD (LOGD)	6.06	pH 9 25 deg C	(1)
LOGD (LOGD)	6.06	pH 10 25 deg C	(1)
LOGP (LOGP)	6.064+/-0.750	25 deg C	(1)
Mass Intrinsic Solubility (ISLB.MASS)	0.00012 g/L	25 deg C	(1)
Mass Solubility (SLB.MASS)	0.12 g/L	pH 1 25 deg C	(1)
Mass Solubility (SLB.MASS)	0.046 g/L	pH 2 25 deg C	(1)
Mass Solubility (SLB.MASS)	0.025 g/L	pH 3 25 deg C	(1)
Mass Solubility (SLB.MASS)	0.0056 g/L	pH 4 25 deg C	(1)
Mass Solubility (SLB.MASS)	0.00074 g/L	pH 5 25 deg C	(1)
Mass Solubility (SLB.MASS)	0.00019 g/L	pH 6 25 deg C	(1)
Mass Solubility (SLB.MASS)	0.00013 g/L	pH 7 25 deg C	(1)
Mass Solubility (SLB.MASS)	0.00013 g/L	pH 8 25 deg C	(1)
Mass Solubility (SLB.MASS)	0.00013 g/L	pH 9 25 deg C	(1)
Mass Solubility (SLB.MASS)	0.00013 g/L	pH 10 25 deg C	(1)
Mass Solubility (SLB.MASS)	0.00013 g/L	Unbuffered Water pH 7.04 25 deg C	(1)
Molar Intrinsic Solubility (ISLB.MOL)	0.00000035 mol/L	25 deg C	(1)
Molar Solubility (SLB.MOL)	0.00035 mol/L	pH 1 25 deg C	(1)
Molar Solubility (SLB.MOL)	0.00013 mol/L	pH 2 25 deg C	(1)
Molar Solubility (SLB.MOL)	0.000071 mol/L	pH 3 25 deg C	(1)
Molar Solubility (SLB.MOL)	0.000016 mol/L	pH 4 25 deg C	(1)
Molar Solubility (SLB.MOL)	0.0000021 mol/L	pH 5 25 deg C	(1)
Molar Solubility (SLB.MOL)	0.00000053 mol/L	pH 6 25 deg C	(1)
Molar Solubility (SLB.MOL)	0.00000037 mol/L	pH 7 25 deg C	(1)
Molar Solubility (SLB.MOL)	0.00000036 mol/L	pH 8 25 deg C	(1)
Molar Solubility (SLB.MOL)	0.00000036 mol/L	pH 9 25 deg C	(1)
Molar Solubility (SLB.MOL)	0.00000036 mol/L	pH 10 25 deg C	(1)

```
Molar Solubility (SLB.MOL)    |0.00000037 mol/L      |Unbuffered Water|(1)
                              |                      |pH 7.04         |
                              |                      |25 deg C        |
Molar Volume (MVOL)           |267.0+/-3.0 cm**3/mol|20 deg C        |(1)
                              |                      |760 Torr        |
Molecular Weight (MW)         |350.43                |                |(1)
PKA (PKA)                     |5.69+/-0.40           |Most Basic      |(1)
                              |                      |25 deg C        |
Polar Surface Area (PSA)      |70.67 A**2            |                |(1)
Vapor Pressure (VP)           |5.19E-13 Torr         |25 deg C        |(1)

(1)  Calculated using Advanced Chemistry Development (ACD/Labs) Software V8.14
     ((C) 1994-2008 ACD/Labs)


See HELP PROPERTIES for information about property data sources in REGISTRY.
            1014 REFERENCES IN FILE CA (1907 TO DATE)
               3 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
            1015 REFERENCES IN FILE CAPLUS (1907 TO DATE)
               2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE  1

AN   148:506506  CA
TI   Dependence of acid generation efficiency on molecular structures of acid
     generators upon exposure to extreme ultraviolet radiation
AU   Hirose, Ryo; Kozawa, Takahiro; Tagawa, Seiichi; Kai, Toshiyuki; Shimokawa,
     Tsutomu
CS   The Institute of Scientific and Industrial Research, Osaka University, 8-1
     Mihogaoka, Ibaraki, Osaka, 567-0047, Japan
SO   Applied Physics Express (2008), 1(2), 027004/1-027004/3
     CODEN: APEPC4; ISSN: 1882-0778
PB   Japan Society of Applied Physics
DT   Journal
LA   English
CC   74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other
     Reprographic Processes)
AB   The trade-off between resolution, sensitivity, and line edge roughness (LER)
     is the most serious problem for the development of sub-30 nm resists based
     on chemical amplification.  Because of this trade-off, the increase in acid
     generation efficiency is essentially required for high-resolution patterning
     with high sensitivity and low LER.  In this study, the authors
     investigated the dependences of acid generation efficiency on the mol.
     structure and concentration of acid generators upon exposure to extreme-UV
(EUV)
     radiation.  The acid generation efficiency (the number of acid mols.
     generated by a single EUV photon) was obtained within the acid generator
     concentration range of 0-30 wt% for five types of ionic and nonionic acid
     generators.
ST   photoacid generator mol structure acid generation efficiency extreme UV;
     chem amplification photoresist acid generation efficiency extreme UV
     lithog
IT   Photoresists
        (chemical amplification, extreme-UV; dependence of acid generation
        efficiency on mol. structures and concentration of photoacid generators in
        chemical amplification photoresists for extreme-UV lithog.)
IT   Molecular structure-property relationship
        (dependence of acid generation efficiency on mol. structures and
concentration
        of photoacid generators in chemical amplification photoresists for
        extreme-UV lithog.)
IT   Surface roughness
```

(line-edge; dependence of acid generation efficiency on mol. structures
and concentration of photoacid generators in chemical amplification
photoresists
for extreme-UV lithog.)
IT   Photolysis
(quantum yield; dependence of acid generation efficiency on mol.
structures and concentration of photoacid generators in chemical
amplification
photoresists for extreme-UV lithog.)
IT   38215-36-0, Coumarin 6
RL: NUU (Other use, unclassified); USES (Uses)
(acid indicator; dependence of acid generation efficiency on mol.
structures and concentration of photoacid generators in chemical
amplification
photoresists for extreme-UV lithog.)
IT   24979-70-2, Poly(4-hydroxystyrene)
RL: PEP (Physical, engineering or chemical process); TEM (Technical or
engineered material use); PROC (Process); USES (Uses)
(dependence of acid generation efficiency on mol. structures and
concentration
of photoacid generators in chemical amplification photoresists for
extreme-UV lithog.)
IT   57840-38-7, Triphenylsulfonium hexafluoroantimonate   66003-76-7,
Diphenyliodonium triflate   66003-78-9, Triphenylsulfonium triflate
133710-62-0
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM
(Technical or engineered material use); PROC (Process); USES (Uses)
(photoacid generator; dependence of acid generation efficiency on mol.
structures and concentration of photoacid generators in chemical
amplification
photoresists for extreme-UV lithog.)
RE.CNT 22   THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD
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(20) Tanuma, S; Surf Interface Anal 1994, V21, P165 CAPLUS
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REFERENCE 2

AN   148:506365 CA
TI   Organic devices having improved moisture sealability of protective films
and their manufacture
IN   Sugai, Koji
PA   Canon Inc., Japan

```
SO   Jpn. Kokai Tokkyo Koho, 7pp.
     CODEN: JKXXAF
DT   Patent
LA   Japanese
CC   73-11 (Optical, Electron, and Mass Spectroscopy and Other Related
     Properties)
FAN.CNT 1
     PATENT NO.        KIND  DATE           APPLICATION NO.  DATE
     ---------------   ----  --------       ---------------  --------
PI   JP 2008108652      A    20080508       JP 2006-291923   20061027
PRAI JP 2006-291923   20061027
AB   In the process, organic compound layers held between pair of electrodes are
     covered with the 1st protective films by plasma CVD and then with the 2nd
     protective films by sputtering.  The resulting films show excellent step
     coverage and flatness.
ST   org device moisture impermeable bilayer protective film; plasma CVD
     sputtering protective film sequential deposition
IT   Sputtering
        (manufacture of organic LED having bilayer moisture-barrier protective films
        formed by plasma CVD and sputtering)
IT   Electroluminescent devices
        (organic; manufacture of organic LED having bilayer moisture-barrier
protective
        films formed by plasma CVD and sputtering)
IT   Vapor deposition process
        (plasma; manufacture of organic LED having bilayer moisture-barrier
protective
        films formed by plasma CVD and sputtering)
IT   534-17-8, Cesium carbonate
     RL: PEP (Physical, engineering or chemical process); TEM (Technical or
     engineered material use); PROC (Process); USES (Uses)
        (electron-injecting layers; manufacture of organic LED having bilayer
        moisture-barrier protective films formed by plasma CVD and sputtering)
IT   1662-01-7, 4,7-Diphenyl-1,10-phenanthroline
     RL: PEP (Physical, engineering or chemical process); TEM (Technical or
     engineered material use); PROC (Process); USES (Uses)
        (electron-transporting layers; manufacture of organic LED having bilayer
        moisture-barrier protective films formed by plasma CVD and sputtering)
IT   2085-33-8, Tris(8-quinolinolato)aluminum   38215-36-0, Coumarin 6
     RL: PEP (Physical, engineering or chemical process); TEM (Technical or
     engineered material use); PROC (Process); USES (Uses)
        (emitting layers; manufacture of organic LED having bilayer moisture-barrier
        protective films formed by plasma CVD and sputtering)
IT   123847-85-8, α-NPD
     RL: PEP (Physical, engineering or chemical process); TEM (Technical or
     engineered material use); PROC (Process); USES (Uses)
        (hole-transporting layers; manufacture of organic LED having bilayer
        moisture-barrier protective films formed by plasma CVD and sputtering)
IT   12033-89-5P, Silicon nitride, uses
     RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical
     process); TEM (Technical or engineered material use); PREP (Preparation);
     PROC (Process); USES (Uses)
        (protective films; manufacture of organic LED having bilayer
moisture-barrier
        protective films formed by plasma CVD and sputtering)

REFERENCE  3

AN   148:495388  CA
TI   Bimolecular electron transfer reactions in coumarin-amine systems:
     Donor-acceptor orientational effect on diffusion-controlled reaction rates
AU   Satpati, A. K.; Nath, S.; Kumbhakar, M.; Maity, D. K.; Senthilkumar, S.;
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Pal, H.
CS Analytical Chemistry Division, Bhabha Atomic Research Centre, Mumbai, 400 085, India
SO Journal of Molecular Structure (2008), 878(1-3), 84-94
CODEN: JMOSB4; ISSN: 0022-2860
PB Elsevier B.V.
DT Journal
LA English
CC 22-7 (Physical Organic Chemistry)
Section cross-reference(s): 74
AB Electron transfer (ET) reactions between excited coumarin dyes and different aliphatic amine (AlA) and aromatic amine (ArA) donors have been investigated in acetonitrile solution using steady-state (SS) and time-resolved (TR) fluorescence quenching measurements. No ground state complex or emissive exciplex formation has been indicated in these systems. SS and TR measurements give similar quenching consts. (kq) for each of the coumarin-amine pairs, suggesting dynamic nature of interaction in these systems. Correlation of kq values with the free energy changes (ΔG0) of the ET reactions shows the typical Rehm-Weller type of behavior as expected for bimol. ET reactions under diffusive condition, where kq increases with -ΔG0 at the lower exergonicity (-ΔG0) region but ultimately saturate to a diffusion-limited value (kqDC) at the higher exergonicity region. It is, however, interestingly observed that the kqDC values vary largely depending on the type of the amines used. Thus, kqDC is much higher with ArAs than AlAs. Similarly, the kqDC for cyclic monoamine 1-azabicyclo-[2,2,2]-octane (ABCO) is distinctly lower and that for cyclic diamine 1,4-diazabicyclo-[2,2,2]-octane (DABCO) is distinctly higher than the kqDC value obtained for other noncyclic AlAs. These differences in the kqDC values have been rationalized on the basis of the differences in the orientational restrictions involved in the ET reactions with different types of amines. As understood, n-type donors (AlAs) introduce large orientational restriction and thus significantly reduces the ET efficiency in comparison to the π-type donors (ArAs). Structural constrains are inferred to be the reason for the differences in the kqDC values involving ABCO, DABCO donors in comparison to other noncyclic AlAs. Supportive evidence for the orientational restrictions involving different types of amines donors has also been obtained from DFT based quantum chemical calcns. on the MOs of representative acceptor and donor mols.
ST photoinduced electron transfer coumarin amine
IT Amines, properties
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(aliphatic; bimol. photoinduced electron transfer reactions in coumarin-amine systems and donor-acceptor orientational effect on diffusion-controlled reaction rates)
IT Amines, properties
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(aromatic; bimol. photoinduced electron transfer reactions in coumarin-amine systems and donor-acceptor orientational effect on diffusion-controlled reaction rates)
IT Lone-pair electrons
(as HOMO of aliphatic amines and orientational restrictions on quenching; bimol. photoinduced electron transfer reactions in coumarin-amine systems and donor-acceptor orientational effect on diffusion-controlled reaction rates)
IT Fluorescence decay
(bimol. photoinduced electron transfer reactions in coumarin-amine systems and donor-acceptor orientational effect on diffusion-controlled reaction rates)
IT Coumarins

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(bimol. photoinduced electron transfer reactions in coumarin-amine systems and donor-acceptor orientational effect on diffusion-controlled reaction rates)

IT Molecular orientation
(diffusion-controlled kinetics with orientational restrictions; bimol. photoinduced electron transfer reactions in coumarin-amine systems and donor-acceptor orientational effect on diffusion-controlled reaction rates)

IT Reaction kinetics
(diffusion-controlled, diffusion-controlled kinetics with orientational restrictions; bimol. photoinduced electron transfer reactions in coumarin-amine systems and donor-acceptor orientational effect on diffusion-controlled reaction rates)

IT HOMO (molecular orbital)
(of aromatic vs. aliphatic amines and orientational restrictions on quenching; bimol. photoinduced electron transfer reactions in coumarin-amine systems and donor-acceptor orientational effect on diffusion-controlled reaction rates)

IT Fluorescence
Fluorescence quenching
UV and visible spectra
(of coumarins; bimol. photoinduced electron transfer reactions in coumarin-amine systems and donor-acceptor orientational effect on diffusion-controlled reaction rates)

IT Free energy
(of electron transfer vs. quenching kinetics; bimol. photoinduced electron transfer reactions in coumarin-amine systems and donor-acceptor orientational effect on diffusion-controlled reaction rates)

IT Electron transfer
(photochem.; bimol. photoinduced electron transfer reactions in coumarin-amine systems and donor-acceptor orientational effect on diffusion-controlled reaction rates)

IT Electron transfer kinetics
(photoinduced; bimol. photoinduced electron transfer reactions in coumarin-amine systems and donor-acceptor orientational effect on diffusion-controlled reaction rates)

IT 62-53-3, Aniline, properties 91-66-7, N,N-Diethylaniline 99-97-8, N,N-Dimethyl-p-toluidine 100-61-8, N-Methylaniline, properties 100-76-5, ABCO 102-69-2, Tripropylamine 102-82-9, Tributylamine 103-69-5, N-Ethylaniline 121-44-8, Triethylamine, properties 121-69-7, N,N-Dimethylaniline, properties 280-57-9, DABCO 26093-31-2, Coumarin 120 27425-55-4, Coumarin 7 38215-36-0, Coumarin 6 41044-12-6, Coumarin 30 52840-38-7, Coumarin 500 53518-15-3, Coumarin 151 55804-67-6, Coumarin 334 55804-70-1, Coumarin 307
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(bimol. photoinduced electron transfer reactions in coumarin-amine systems and donor-acceptor orientational effect on diffusion-controlled reaction rates)

RE.CNT 54 THERE ARE 54 CITED REFERENCES AVAILABLE FOR THIS RECORD
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REFERENCE 4

AN 148:482944 CA
TI A method of manufacturing a white-light-emitting organic electroluminescent device employing an intermediate electrode unit stacked between light-emitting units
IN Hama, Toshio
PA Fuji Electric Holdings Company Limited, Japan
SO Brit. UK Pat. Appl., 27pp.
CODEN: BAXXDU
DT Patent
LA English
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 2443314	A	20080430	GB 2007-20661	20071023
	JP 2008108503	A	20080508	JP 2006-288825	20061024
	US 20080108270	A1	20080508	US 2007-876170	20071022
	CN 101170107	A	20080430	CN 2007-10167431	20071024

PRAI JP 2006-288825 20061024

AB A method of manufacturing a white light emitting organic electroluminescent (EL) device having a plurality of organic EL layers without increase in a driving voltage, the device having at least a reflective electrode, a first organic EL layer that emits light in a first color, an intermediate electrode unit, a second organic EL layer that emits light in a second color, and a second transparent electrode, the reflective electrode being of the same polarity as the second transparent electrode, and the intermediate electrode unit being of opposite polarity. The method comprises steps of preparing a first organic light emitting unit including the reflective electrode and the first organic EL layer, preparing a second organic light emitting unit including the second transparent electrode and the second organic EL layer, preparing an intermediate electrode unit including a first transparent electrode on both sides thereof, and disposing the intermediate electrode unit between the first organic light emitting unit and the second organic light emitting unit such that each of the first organic EL layer and the second organic EL layer opposes the intermediate electrode unit.

ST manufg white OLED electroluminescent device intermediate electrode

IT Electrodes
(intermediate; method of manufacturing a white-light-emitting organic electroluminescent device employing intermediate electrode unit stacked between light-emitting units)

IT Semiconductor device fabrication
(method of manufacturing a white-light-emitting organic electroluminescent device employing intermediate electrode unit stacked between light-emitting units)

IT Adhesives
(photocurable, intermediate electrode and emitting units sealed by; method of manufacturing a white-light-emitting organic electroluminescent device employing intermediate electrode unit stacked between light-emitting units)

IT Polyimides, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(substrate of intermediate electrode; method of manufacturing a white-light-emitting organic electroluminescent device employing intermediate electrode unit stacked between light-emitting units)

IT Electrodes
(transparent; method of manufacturing a white-light-emitting organic electroluminescent device employing intermediate electrode unit stacked between light-emitting units)

IT Electroluminescent devices
(white-emitting; method of manufacturing a white-light-emitting organic electroluminescent device employing intermediate electrode unit stacked between light-emitting units)

IT 12033-89-5, Silicon nitride, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(barrier layers in intermediate electrode; method of manufacturing a white-light-emitting organic electroluminescent device employing intermediate electrode unit stacked between light-emitting units)

IT 523977-57-3, DPAVBi
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)

(blue-emitting dopant; method of manufacturing a white-light-emitting
organic
electroluminescent device employing intermediate electrode unit stacked
between light-emitting units)
IT   142289-08-5, DPVBi
RL: TEM (Technical or engineered material use); USES (Uses)
(doped emitting host; method of manufacturing a white-light-emitting organic
electroluminescent device employing intermediate electrode unit stacked
between light-emitting units)
IT   2085-33-8, Aluminum tris(8-hydroxyquinolinato)
RL: TEM (Technical or engineered material use); USES (Uses)
(electron-transporting layer; method of manufacturing a white-light-emitting
organic electroluminescent device employing intermediate electrode unit
stacked between light-emitting units)
IT   38215-36-0, Coumarin 6
RL: MOA (Modifier or additive use); TEM (Technical or engineered material
use); USES (Uses)
(green-emitting dopant; method of manufacturing a white-light-emitting
organic
electroluminescent device employing intermediate electrode unit stacked
between light-emitting units)
IT   123847-85-8, α-NPD
RL: TEM (Technical or engineered material use); USES (Uses)
(hole-transporting layer; method of manufacturing a white-light-emitting
organic
electroluminescent device employing intermediate electrode unit stacked
between light-emitting units)
IT   51325-91-8, DCM
RL: MOA (Modifier or additive use); TEM (Technical or engineered material
use); USES (Uses)
(red-emitting dopant; method of manufacturing a white-light-emitting organic
electroluminescent device employing intermediate electrode unit stacked
between light-emitting units)
IT   7429-90-5, Aluminum, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(reflective electrode; method of manufacturing a white-light-emitting
organic
electroluminescent device employing intermediate electrode unit stacked
between light-emitting units)
IT   50926-11-9, Indium tin oxide
RL: TEM (Technical or engineered material use); USES (Uses)
(transparent electrode layer; method of manufacturing a white-light-emitting
organic electroluminescent device employing intermediate electrode unit
stacked between light-emitting units)
RE.CNT 3   THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
(1) Internat Mfg; EP 1571709 A2 CAPLUS
(2) Kodak, E; WO 2006017189 A1 CAPLUS
(3) Lg Philips; GB 2426381 A CAPLUS

REFERENCE 5

AN   148:482942 CA
TI   Organic light-emitting diode adopting metal-doped organic receptor film
IN   Qin, Dashan; Cao, Guohua; Cao, Junsong; Zeng, Yiping; Li, Jinmin
PA   Institute of Semiconductors, Chinese Academy of Sciences, Peop. Rep. China
SO   Faming Zhuanli Shenqing Gongkai Shuomingshu, 15pp.
CODEN: CNXXEV
DT   Patent
LA   Chinese
CC   73-11 (Optical, Electron, and Mass Spectroscopy and Other Related
Properties)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI CN 101165940	A	20080423	CN 2006-10113820	20061018

PRAI CN 2006-10113820 20061018

AB The title organic light-emitting diode includes a substrate, a pos. electrode deposited on the substrate and used for injecting hole, an organic hole injection layer deposited on the pos. electrode and used for receiving hole from the pos. electrode, an organic hole transport layer on the organic hole injection layer for receiving and transporting hole from the organic hole injection layer, an organic luminescent layer deposited on the organic hole transport layer, an organic electron injection layer on the organic luminescent layer for transporting electron to the organic luminescent layer, and a neg. electrode deposited on the organic electron injection layer and used for injecting electron. The organic electron injection layer is doped with Mg or Ca.

ST org light emitting diode metal doped receptor film

IT Electroluminescent devices
(organic light-emitting diode adopting metal-doped organic receptor film)

IT 7439-95-4, Magnesium, uses 7440-70-2, Calcium, uses
RL: MOA (Modifier or additive use); USES (Uses)
(dopant, organic light-emitting diode adopting metal-doped organic receptor film)

IT 128-69-8, PTCDA 147-14-8, Copper phthalocyanine 517-51-1, Rubrene 2085-33-8, Tris(8-quinolinolato)aluminum 7440-22-4, Silver, uses 7440-57-5, Gold, uses 14320-04-8, Zinc phthalocyanine 19205-19-7, N,N'-Dimethylquinacridone 38215-36-0, 3-(2-Benzothiazolyl)-7-(diethylamino)coumarin 51325-91-8, 4-(Dicyanomethylene)-2-methyl-6-(p-dimethylaminostyryl)-4H-pyran 55034-79-2 65181-78-4, N,N'-Diphenyl-N,N'-bis(3-methylphenyl)-1,1'-biphenyl-4,4'-diamine 99685-96-8, Fullerene, C60 123847-85-8, N,N'-Diphenyl-N,N'-bis(1-naphthyl)-1,1'-biphenyl-4,4'-diamine
RL: TEM (Technical or engineered material use); USES (Uses)
(organic light-emitting diode adopting metal-doped organic receptor film)

REFERENCE 6

AN 148:482941 CA

TI Organic light-emitting diode adopting polarization hole injection structure

IN Qin, Dashan; Cao, Guohua; Cao, Junsong; Zeng, Yiping; Li, Jinmin

PA Institute of Semiconductors, Chinese Academy of Sciences, Peop. Rep. China

SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 18pp.
CODEN: CNXXEV

DT Patent

LA Chinese

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI CN 101165939	A	20080423	CN 2006-10113819	20061018

PRAI CN 2006-10113819 20061018

AB The title organic light-emitting diode includes a substrate, a pos. electrode deposited on the substrate, an organic electron acceptor layer deposited on the pos. electrode and used for generating inner carriers, an organic electron donor layer deposited on the organic electron acceptor layer and used for generating inner carrier, an organic hole transport layer deposited on the organic electron acceptor layer, an organic luminescent layer on the organic hole transport layer, an organic electron transport layer on the organic light-emitting layer, and a neg. electrode on the organic electron transport

layer.
ST   org light emitting diode polarization hole injection structure
IT   Electroluminescent devices
(organic light-emitting diode adopting polarization hole injection structure)
IT   7440-06-4, Platinum, uses   7440-74-6, Indium, uses   7782-41-4, Fluorine, uses
RL: MOA (Modifier or additive use); USES (Uses)
(dopant, organic light-emitting diode adopting polarization hole injection structure)
IT   7440-22-4, Silver, uses   7440-57-5, Gold, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(dopant, organic light-emitting diode adopting polarization hole injection structure)
IT   1332-29-2, Tin oxide
RL: TEM (Technical or engineered material use); USES (Uses)
(indium or fluorine doped, organic light-emitting diode adopting polarization hole injection structure)
IT   128-69-8, PTCDA   147-14-8, Copper phthalocyanine   517-51-1, Rubrene   2085-33-8, Tris(8-quinolinolato)aluminum   14320-04-8, Zinc phthalocyanine   19205-19-7, N,N'-Dimethylquinacridone   38215-36-0, 3-(2-Benzothiazolyl)-7-(diethylamino)coumarin   51325-91-8, 4-(Dicyanomethylene)-2-methyl-6-(p-dimethylaminostyryl)-4H-pyran   55034-79-2   65181-78-4, N,N'-Diphenyl-N,N'-bis(3-methylphenyl)-1,1'-biphenyl-4,4'-diamine   99685-96-8, Fullerene, C60   123847-85-8, N,N'-Diphenyl-N,N'-bis(1-naphthyl)-1,1'-biphenyl-4,4'-diamine   146162-54-1, Bis(2-methyl-8-quinolinolato)-4-(phenylphenolato)aluminum
RL: TEM (Technical or engineered material use); USES (Uses)
(organic light-emitting diode adopting polarization hole injection structure)

REFERENCE 7

AN   148:482904 CA
TI   Electroluminescent device and electroluminescent panel
IN   Mori, Toshitaka
PA   Nec Lighting, Ltd., Japan
SO   U.S. Pat. Appl. Publ., 16pp.
CODEN: USXXCO
DT   Patent
LA   English
NCL -313
CC   73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20080093978	A1	20080424	US 2007-870835	20071011
	JP 2008108439	A	20080508	JP 2006-287397	20061023
	KR 2008036520	A	20080428	KR 2007-104498	20071017

PRAI JP 2006-287397   20061023
AB   An electroluminescent device is described comprising a support substrate; a light emitting portion in which a first electrode, a light emitting medium and a second electrode are laminated in this order or the inverse order on the support substrate; and a light scattering portion located at least on the side of the light emitting medium, containing a light scattering fine particle, or the light scattering fine particle and fluorescent substance, and having a tapered shape in which a distance from a center of the light emitting portion enlarges upward from the side of the support substrate, wherein, in the light emitting portion, the light emitting

medium emits light by passing elec. current between the first electrode and the second electrode, and wherein light exiting from the light emitting medium and traveling in the direction different from a direction A of extracting light is incident on the light scattering portion and scattered, or is absorbed to emit and scatter light, thereby light is extracted from the light scattering portion in the direction A.

ST electroluminescent device light scattering tapered

IT Electroluminescent devices
Light scattering
(electroluminescent device having light scattering portion with tapered geometry)

IT 198-55-0, Perylene 43126-71-2
RL: TEM (Technical or engineered material use); USES (Uses)
(blue emitting layer; electroluminescent device having light scattering portion with tapered geometry)

IT 50926-11-9, Indium tin oxide
RL: TEM (Technical or engineered material use); USES (Uses)
(electrode; electroluminescent device having light scattering portion with tapered geometry)

IT 38215-36-0, Coumarin 6
RL: TEM (Technical or engineered material use); USES (Uses)
(green phosphor; electroluminescent device having light scattering portion with tapered geometry)

IT 123847-85-8
RL: TEM (Technical or engineered material use); USES (Uses)
(hole transporting layer; electroluminescent device having light scattering portion with tapered geometry)

IT 7440-45-1, Cerium, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(phosphor; electroluminescent device having light scattering portion with tapered geometry)

IT 12005-21-9, Aluminum yttrium oxide (Al5Y3O12) 12590-00-0, Calcium gallium sulfide (CaGa2S4)
RL: TEM (Technical or engineered material use); USES (Uses)
(phosphor; electroluminescent device having light scattering portion with tapered geometry)

IT 989-38-8, Rhodamine 6G
RL: TEM (Technical or engineered material use); USES (Uses)
(red phosphor; electroluminescent device having light scattering portion with tapered geometry)

IT 7440-47-3, Chromium, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(reflecting electrode; electroluminescent device having light scattering portion with tapered geometry)

IT 13463-67-7, Titanium oxide (TiO2), uses
RL: TEM (Technical or engineered material use); USES (Uses)
(scattering particle; electroluminescent device having light scattering portion with tapered geometry)

REFERENCE 8

AN 148:482729 CA

TI Color-tuning of polymer light-emitting devices through maskless dye diffusion technique

AU Tada, Kazuya; Onoda, Mitsuyoshi

CS Division of Electrical Engineering, University of Hyogo, 2167 Shosha, Himeji, Hyogo, 671-2280, Japan

SO Thin Solid Films (2008), 516(9), 2723-2726
CODEN: THSFAP; ISSN: 0040-6090

PB Elsevier B.V.

DT Journal

LA   English
CC   73-11 (Optical, Electron, and Mass Spectroscopy and Other Related
     Properties)
     Section cross-reference(s): 36, 38, 41, 76
AB   The maskless dye diffusion technique is a method to dope dye mols. into
     polymer films by thermal activation. Since the patterned In Sn oxide
     (ITO) electrodes for the future devices are used as heat source so that
     the dye doping area mimics the shape of the ITO pattern heated, this
     method can remove the precise positioning between the ITO electrode and
     dye doping area which is usually required in other techniques. Some
     results are reported on the polymer LEDs made through maskless dye
     diffusion. When poly(9,9-dioctylfluorene) (PDOF) was used as host
     material, diffusion of Coumarin 6 and a phosphorescent dye BtpIr yields
     green and red emission, resp. In the case of BtpIr-diffused device, the
     quantum efficiency of the device is .apprx.2.5 times of the device with
     nontreated PDOF film. Poly(N-vinylcarbazole) can be a host material for
     both green and red phosphorescent dyes.
ST   color tuning polymer LED maskless dye diffusion
IT   Dyes
        (color-tuning of polymer LEDs through maskless diffusion with)
IT   Diffusion
        (color-tuning of polymer LEDs through maskless dye)
IT   Electroluminescent devices
        (polymer; color-tuning through maskless dye diffusion)
IT   800395-01-1
     RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or
     engineered material use); USES (Uses)
        (BtpIr; color-tuning of polymer LEDs through maskless diffusion with)
IT   25067-59-8, Poly(N-vinylcarbazole)   195456-48-5,
     Poly(9,9-dioctyl-9H-fluorene-2,7-diyl)
     RL: PRP (Properties); TEM (Technical or engineered material use); USES
     (Uses)
        (color-tuning of LEDs through maskless dye diffusion)
IT   7385-67-3, Nile red   38215-36-0, Coumarin 6
     RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or
     engineered material use); USES (Uses)
        (color-tuning of polymer LEDs through maskless diffusion with)
RE.CNT 9   THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
(1) Chen, F; Appl Phys Lett 2003, V82, P1006 CAPLUS
(2) Chen, F; J Polym Sci, B, Polym Phys 2003, V41, P2681 CAPLUS
(3) Kido, J; Appl Phys Lett 1993, V63, P2627 CAPLUS
(4) Ohmori, Y; Jpn J Appl Phys 1991, V30, PL1941
(5) Tada, K; Appl Phys Lett 2006, V89, P043508
(6) Tada, K; Jpn J Appl Phys 1999, V38, PL1143 CAPLUS
(7) Tada, K; Jpn J Appl Phys 2005, V44, P4167 CAPLUS
(8) Tada, K; Thin Solid Films 2002, V417, P32 CAPLUS
(9) Yang, X; Appl Phys Lett 2006, V88, P021107

REFERENCE 9

AN   148:480499 CA
TI   Implantation of organic matter through water onto solid substrates by a
     laser induced molecular jet
AU   Pihosh, Y.; Goto, M.; Kasahara, A.; Tosa, M.
CS   Materials Reliability Center, National Institute for Materials Science
     (NIMS), 1-2-1 Sengen, Tsukuba, Ibaraki, 305-0047, Japan
SO   Thin Solid Films (2008), 516(9), 2507-2512
     CODEN: THSFAP; ISSN: 0040-6090
PB   Elsevier B.V.
DT   Journal
LA   English
CC   66-4 (Surface Chemistry and Colloids)

Section cross-reference(s): 38

AB   Organic mol. dots were successfully produced by means of a nano second pulsed dye laser on glass and indium tin oxide (ITO) substrates, with sizes of several hundred nanometers. The method involves the transfer of organic mols. from the source Coumarin 6 (C6) and poly [2-methoxy, 5-(2'-ethyl-hexyloxy)-p-phenylene-vinylene] (MEH-PPV) films onto a target material through a water filled space-gap using a laser induced mol. jet (LIMJ). In this way, the organic dots of Coumarin 6 and MEH-PPV mols. were successfully implanted onto the glass and ITO targets. The present results demonstrate the possibility to significantly improve photo electronic or photoelec. devices such as novel photonic crystal and mol. device sensors, and so on.

ST   implantation org matter water solid surface laser mol jet

IT   Films
Glass substrates
Nanostructures
Surface structure
(implantation of organic matter through water onto solid surface by laser-induced mol. jet)

IT   50926-11-9, Ito
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(implantation of organic matter through water onto solid surface by laser-induced mol. jet)

IT   38215-36-0, Coumarin 6   138184-36-8
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(implantation of organic matter through water onto solid surface by laser-induced mol. jet)

RE.CNT 18   THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD

(1) Baurle, D; Laser Processing and Chemistry, 3rd ed 2000
(2) Berthe, L; J Phys, D, Appl Phys 2000, V33, P2142 CAPLUS
(3) Fukumura, H; Chem Phys Lett 1994, V221, P373 CAPLUS
(4) Fukumura, H; J Am Chem Soc 1994, V116, P10304 CAPLUS
(5) Goto, M; Appl Surf Sci 2000, V154-155, P701 CAPLUS
(6) Goto, M; J Appl Phys 2000, V90(9), P4755
(7) Goto, M; J Appl Phys 2006, V45(36), PL966
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(9) Hong, S; Science 1999, V286, P523 CAPLUS
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(11) Kagan, C; Appl Phys Lett 2001, V79, P3536 CAPLUS
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(13) Muller, C; Nature 2003, V421, P829
(14) Oishi, T; Appl Phys, A 2004, V79, P1733 CAPLUS
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(16) Pihosh, Y; Appl Surf Sci 2005, V241, P205 CAPLUS
(17) Pihosh, Y; J Photochem Photobiol, A Chem 2006, V183(3), P292 CAPLUS
(18) Tian, P; Appl Phys Lett 1997, V71, P22

REFERENCE 10

AN   148:473857 CA

TI   Photo-curable ink composition set, and recording method and recordings employing ink composition set

IN   Oyanagi, Takashi; Nakano, Keitaro; Inoue, Kazushige

PA   Seiko Epson Corporation, Japan

SO   Eur. Pat. Appl., 28pp.
CODEN: EPXXDW

DT   Patent

LA   English

CC   42-12 (Coatings, Inks, and Related Products)
Section cross-reference(s): 74

FAN.CNT 1

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     PATENT NO.       KIND  DATE          APPLICATION NO.  DATE
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PI   EP 1914279        A2   20080423      EP 2007-20438    20071018
     EP 1914279        A3   20080507
         R:  AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
             IS, IT, LI, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR,
             AL, BA, HR, MK, RS
     CN 101165108      A    20080423      CN 2007-10181629 20071019
     US 20080096998    A1   20080424      US 2007-975704   20071019
PRAI JP 2006-285096   20061019
     JP 2006-285102   20061019
     JP 2007-6196     20070115
     JP 2007-6197     20070115
     JP 2007-187537   20070718
     JP 2007-198887   20070731
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AB The title two-constituent set exhibiting an increased photosensitivity comprises a composition A containing ≥1 coloring agent, a polymerizable compound such as, an example, allyl glycol and a radical polymerization photoinitiator and a composition B containing ≥1 polymerizable compound and not containing coloring agent and the photoinitiator, whereby both A and B can contain a sensitizer such as a mixture of ≥1 thioxanthone or coumarin derivs. Thus, a set consisting of a compound A comprising 87.6 weight% allyl glycol, 4 weight% Irgacure 819, 1 weight% Irgacure 127, 6 weight% s pigment black 7
dispersion, 1.4 weight% a dispersing agent and 0.01 weight% 2,4-diethylthioxanthone as a sensitizer and a compound B consisting 70 weight% allyl glycol, 30 weight% a hyperbranched copolymer and 0.01 weight% 2,4-diethylthioxanthone as a sensitizer (both component are stable ≥7 days at 60°) need a lower energy for setting (10,300 mJ/cm2) compared to the same composition containing a pigment in a compound B.

ST two constituent photocurable ink set exhibiting increased photosensitivity; diethylthioxanthone benzothiazolyldiethylaminocoumarin sensitizer two constituent photocurable ink set

IT Inks
(jet-printing, photocurable; two-constituent photocurable ink composition set exhibiting an increased photosensitivity and recording method)

IT Catalysts
(photochem.; two-constituent photocurable ink composition set exhibiting an increased photosensitivity and recording method)

IT Inks
(photocurable; two-constituent photocurable ink composition set exhibiting an increased photosensitivity and recording method)

IT Polyamines
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PREP (Preparation); USES (Uses)
(polyamide-, dendrimers; two-constituent photocurable ink composition set exhibiting an increased photosensitivity and recording method)

IT Dendrimers
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PREP (Preparation); USES (Uses)
(polyamide-polyamines; two-constituent photocurable ink composition set exhibiting an increased photosensitivity and recording method)

IT Polyamides, uses
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PREP (Preparation); USES (Uses)
(polyamine-, dendrimers; two-constituent photocurable ink composition set exhibiting an increased photosensitivity and recording method)

IT Polyoxyalkylenes, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(polyamine-, polyalkylene; two-constituent photocurable ink composition set exhibiting an increased photosensitivity and recording method)

IT Polyamines

RL: TEM (Technical or engineered material use); USES (Uses)
(polyoxyalkylene-, polyalkylene; two-constituent photocurable ink composition set exhibiting an increased photosensitivity and recording method)

IT Dispersing agents
Ink-jet printing
Light sensitization
(two-constituent photocurable ink composition set exhibiting an increased photosensitivity and recording method)

IT Carbon black, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(two-constituent photocurable ink composition set exhibiting an increased photosensitivity and recording method)

IT 75455-43-5P 1020396-25-1P
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PREP (Preparation); USES (Uses)
(crosslinked composition comprising; two-constituent photocurable ink composition set exhibiting an increased photosensitivity and recording method)

IT 2274-11-5, Ethylene glycol diacrylate 29570-58-9, Dipentaerythritol hexaacrylate
RL: MOA (Modifier or additive use); USES (Uses)
(crosslinked composition comprising; two-constituent photocurable ink composition set exhibiting an increased photosensitivity and recording method)

IT 26937-01-9P
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PREP (Preparation); USES (Uses)
(dendritic, from divergent approach; two-constituent photocurable ink composition set exhibiting an increased photosensitivity and recording method)

IT 162881-26-7, Irgacure 819 474510-57-1, Irgacure 127
RL: CAT (Catalyst use); USES (Uses)
(photoinitiator; two-constituent photocurable ink composition set exhibiting an increased photosensitivity and recording method)

IT 38215-36-0, 3-(2-Benzothiazolyl)-7-diethylaminocoumarin 82799-44-8, 2,4-Diethylthioxanthone 97004-78-9 351002-66-9
RL: CAT (Catalyst use); USES (Uses)
(sensitizer; two-constituent photocurable ink composition set exhibiting an increased photosensitivity and recording method)

IT 939019-08-6, Star 501 952185-08-9, Viscoat 1000
RL: POF (Polymer in formulation); USES (Uses)
(two-constituent photocurable ink composition set exhibiting an increased photosensitivity and recording method)

IT 147-14-8, Pigment Blue 15 1047-16-1, Pigment violet 19 68516-73-4, Pigment yellow 155 886577-76-0, Karenz BEI
RL: TEM (Technical or engineered material use); USES (Uses)
(two-constituent photocurable ink composition set exhibiting an increased photosensitivity and recording method)

IT 10287-53-3, Darocur EDB
RL: CAT (Catalyst use); USES (Uses)
(two-polymerization promoter constituent photocurable ink composition set exhibiting an increased photosensitivity and recording method)

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